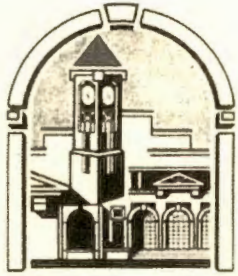


16-1940

City of Venice

Request to Speak (print legibly)



'City on the Gulf'

Name: Tom Pendergrass Date: 4-12-2016
 Address: 787 Bridle Oaks Dr
 City: Venice State: Fl. Zip: 34292
 Telephone: 941-488-2428

Please Check One

Audience Participation.

Agenda - Topic: 16-1940 Lime Sludge Closure

Organization (if any): Retired

If you are going to present evidence and/or testimony during a public hearing, you are required to complete and sign the following oath. You are not required to sign the oath if you are speaking at Audience Participation or at a workshop.

I swear or affirm, under penalty of perjury, that the evidence or factual representation, which I am about to give or present at the public hearing, held this 12 day of April 2016 is truthful.

Signature: Tom Pendergrass

Comments at public hearing and during audience participation are limited to five minutes per speaker unless otherwise noted.

GOPHER TORTOISE COUNCIL

ABOUT THE GOPHER TORTOISE

The Gopher Tortoise: A Species in Decline

“...Everything affecting the gopher tortoise’s habitat affects the tortoise and ... eventually affects all other organisms in its ecosystem. Efforts to save the gopher tortoise are really a manifestation of our desire to preserve intact, significant pieces of the biosphere.

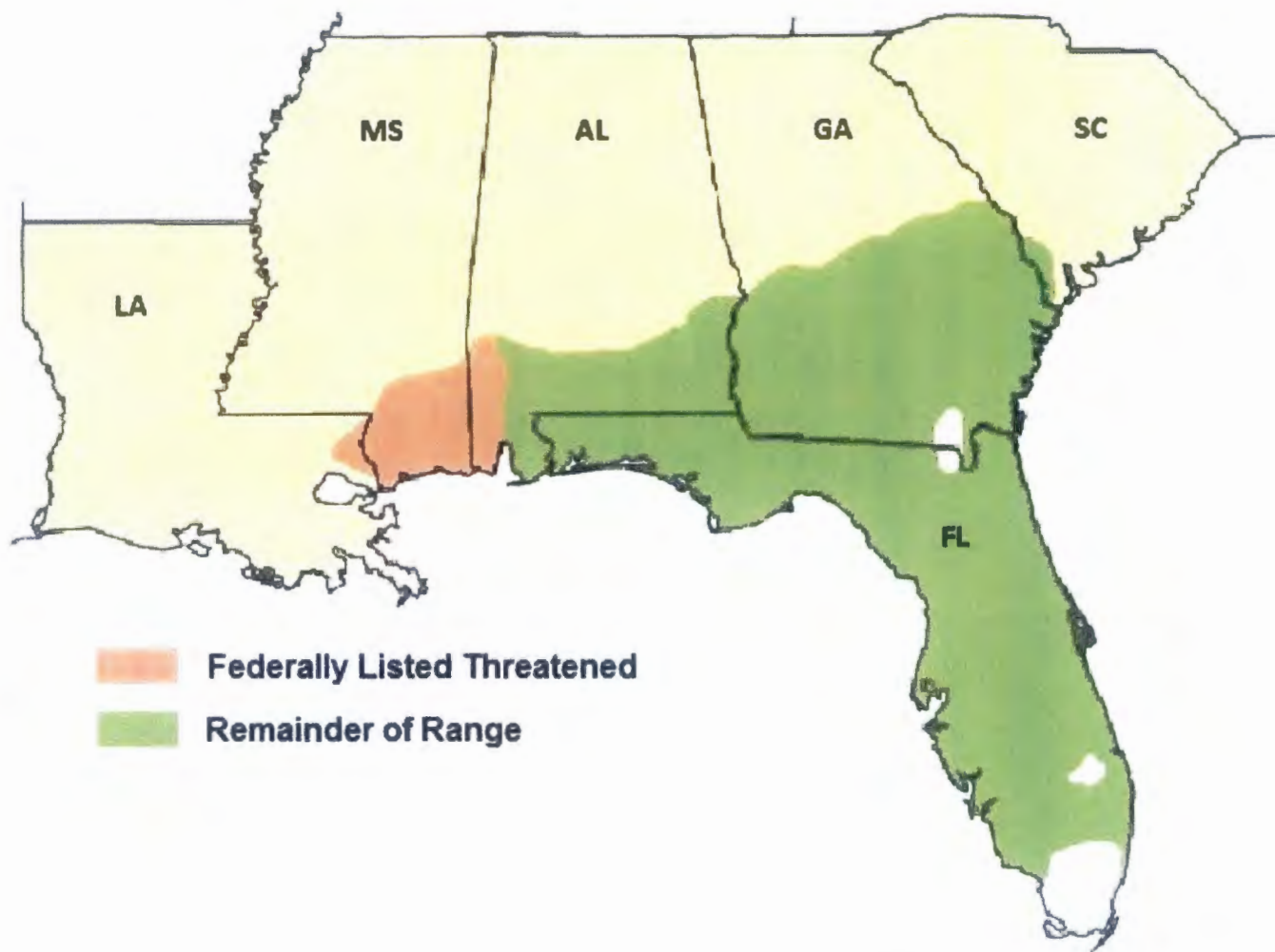
...We must preserve...the gopher tortoise and other species in similar predicaments, for if we do not, we lose a part of our humanity, a part of our habitat, and ultimately our world.”

—Dr. George W. Folkerts, Auburn University, Alabama

History

The **gopher tortoise** (*Gopherus polyphemus*) belongs to a group of land tortoises that originated in western North America nearly 60 million years ago. At least 23 species of tortoise are known to have existed on our continent since that time, but only five remain today. Four of the living species, the desert tortoise (*Gopherus agassizii*), Texas tortoise (*Gopherus berlandieri*), Bolson tortoise (*Gopherus flavomarginatus*), and Sonoran desert tortoise (*Gopherus morafkai*) are found in the southwestern United States and northern Mexico. The ancestors of gopher tortoises, along with those of scrub jays, burrowing owls, and short-tailed snakes, were part of a savanna fauna that migrated into the southeastern United States millions of years ago.

Distribution



Gopher tortoises occur in upland habitats throughout the coastal plain of the southeastern United States, with most being found in north-central Florida and southern Georgia. Their numbers have declined range-wide, but have been severely reduced at the western and northern part of their range. Gopher tortoise populations along Florida's southeast coast and the Florida Panhandle also are greatly reduced from their historic numbers.

Habitat

Gopher tortoises, or “gophers” as they are commonly called, live in extensive subterranean burrows in dry upland habitats. The habitats where gopher tortoises are found include longleaf pine sandhills, xeric oak hammocks, scrub, pine flatwoods, dry prairies, and coastal dunes. Tortoises can also live in man-made environments, such as pastures, old fields, and grassy roadsides. To be suitable for gopher tortoises, the habitat must have well-drained sandy soils for digging burrows, herbaceous food plants, and open sunny areas for nesting and basking. Periodic natural fires play an important role in maintaining tortoise habitat by opening up the canopy and promoting growth of herbaceous food plants. If natural fires are suppressed, habitats may become unsuitable for tortoises. Today, land managers use prescribed fire to maintain tortoise habitat.



Life History

The life of a gopher tortoise revolves around a tunnel-like burrow that is excavated using its shovel-like front feet. Burrows can be up to 40 feet (12 meters) in length and 10 feet (3 meters) in depth. Each burrow has a single opening and the width of the burrow is approximately equal to the length of the tortoise. Therefore, the tortoise is able to turn around at any point within the burrow, and consequently, burrow width is a good indicator of the size (and approximate age) of the tortoise. Gopher tortoise burrows are usually easy to spot in the landscape because of the characteristic mound of loose sand at the burrow entrance (called the “apron”).



Gopher tortoise burrows remain at a fairly constant temperature and humidity level year-round, thus providing shelter for the tortoise during periods of extreme temperatures, drought, and fire. Tortoise burrows also afford refuge to other animals including more than 360 animal

snake, gopher frog, Florida mouse, opossum, armadillo, burrowing owl, gopher cricket, scarab beetles, and many others. Some, such as the Florida mouse, cannot exist without the tortoise burrow.

Gopher tortoises feed mainly on low-growing plants that require abundant sunlight. Although grasses and legumes make up the bulk of their diet, gopher tortoises eat a large variety of herbaceous plants including gopher apple, pawpaw, blackberries, saw palmetto berries, and other fruits. If you have gopher tortoises living on your property, landscaping with native plants will ensure that proper food is available. Look in the documents below for a list of gopher tortoise forage plants.

[Download the List of Forage Plants here \(.pdf\)](#)

Gopher tortoises are thought to live in excess of 60 years. They grow relatively slowly and growth rates vary by geographic region. For example, in northern Florida, female tortoises reach adulthood at 10 to 15 years of age, when the shell length is about nine inches (225-235 millimeters); in southwest Georgia, tortoises may take 21 years to mature. Adult female gopher tortoises are slightly larger than males, and at maturity, male tortoises can usually be distinguished from females by a concave lower shell (plastron).

Gopher tortoises typically breed from April to June, but males may attempt to mate into the late summer or fall. During May and June, female tortoises lay 3-15 eggs, either in the sand mound in front of the burrow or in another nearby sunny place. The incubation period for eggs varies from 80 to 90 days in Florida to more than 100 days in Georgia. A mature female generally produces one clutch of eggs annually. Nest predation can be quite high and an individual female may produce a successful nest as infrequently as once in 10 years. Nest predators include raccoons, foxes, skunks, armadillos, and fire ants.



Hatchling gopher tortoises may use an adult burrow or dig a small burrow of their own. Young gopher tortoises are vulnerable to predation until their shell hardens at about 6-7 years of age. Raccoon, indigo snake, black bear, and red-tailed hawk, among others, eat hatchlings and young tortoises. Adult tortoises have few enemies other than humans, although domestic dogs and

raccoons are known to eat them.

Legal Status

Gopher tortoises are afforded different levels of legal protection throughout their range. **A permit is always required to possess, study, or relocate gopher tortoises.** In the 1980s, Florida outlawed the harvest of tortoises, banned the use of gasoline to collect rattlesnakes from gopher tortoise burrows, and banned tortoise races. The legal status of the gopher tortoise in Florida and other states where it occurs is listed below. The eastern range of the population is currently under Federal review.

State	Status
Georgia	State listed as a Threatened Species
Florida	State listed as a Threatened Species
South Carolina	State listed as a Threatened Species
Mississippi	Federally listed as a Threatened species
Louisiana	Federally listed as a Threatened species
Alabama	Protected non-game species; populations west of the Tombigbee and Mobile Rivers are federally listed as a Threatened species

Problems – And a Few Solutions

The gopher tortoise is declining throughout its range. Some researchers have projected that unless something is done to reverse this decline, this species may soon be found only in protected areas. Why is the gopher tortoise in trouble?

Habitat Loss – Habitat alteration and land development pose the most serious threat to the continued survival of the gopher tortoise. Both people and tortoises like to live in high, dry areas. In addition, phosphate, limestone, and sand mining have destroyed countless acres of tortoise habitat, particularly in central Florida. Tortoises living on proposed development sites are sometimes relocated to another area; however, careful consideration needs to be made as this can result in the spread of disease and may disrupt resident tortoise populations. Relocated tortoises rarely stay at the new site and many are killed crossing roads as they attempt to navigate back to their original range. However, techniques are available to reduce mortality of tortoises as a result

of relocation efforts. In Florida, temporary enclosures are required to increase the site fidelity of relocated tortoises.

Forestry Practices – Although the forestry industry contributes a great deal to the protection of natural areas in the southeastern United States, some forestry practices can be harmful to gopher tortoises. For example, if pines are planted too closely, insufficient sunlight reaches the ground, which limits the growth of plants that the tortoises depend on for food. In addition, female gopher tortoises may be unable to find open sunny sites for nesting. Intensive site preparation also can harm gopher tortoises by destroying burrows and nests. However, forestry practices such as tree thinning and the use of prescribed fire can be beneficial to tortoises. These practices open up the tree canopy and allow sunlight to reach the forest floor with minimum soil disturbance, thus encouraging the growth of grasses and other gopher tortoise food plants. Hand-planting of trees and low intensity site preparation also lessen negative impacts to tortoises. A [useful handbook](#) has been prepared by the American Forest Foundation and can be downloaded [here](#).

Disease – There is little information regarding the diseases of wild tortoises. However, an upper respiratory tract disease (URTD) has been observed in desert tortoises in the western U.S. and in gopher tortoises in Florida, Georgia, and Mississippi. This disease is highly contagious and is transmitted by close contact between tortoises. Clinical signs of URTD include a clear or white nasal discharge, watery eyes, and swollen eyelids. Tortoises can be “silent carriers”, meaning that they have the disease but do not exhibit obvious signs. Mortality from this disease has been high in some desert tortoise populations, but little is known about the effect of the disease on gopher tortoise populations. The occurrence of URTD is a significant concern in regards to gopher tortoise relocation and restocking programs. There is always the threat that diseases can be introduced into established colonies when tortoises are relocated onto new sites. Captive tortoises, in particular, should not be released back into the wild. It is believed that the release of sick, captive tortoises may have been a factor in a 90% decline of desert tortoises on one California preserve.

Road Mortality – Many tortoises are killed each year by automobiles. Road mortality will undoubtedly increase as more and more highways dissect the landscape. Furthermore, roads can act as barriers to tortoise dispersal, effectively isolating populations. A possible solution to this problem is the construction of underpasses to allow tortoises and other wildlife to pass safely beneath roads. If you encounter a tortoise trying to cross the road, it is best to simply carry the tortoise across the road (beware of traffic!).

Tortoises as Food – Tortoises were a reliable source of food during the Depression, when there

was little else to eat. Of course, these so called “Hoover chickens” were much more plentiful 70 years ago. Currently, tortoise harvesting is illegal in every state where tortoises are found. Unfortunately not all states enforce tortoise protection laws. Even after the harvest of tortoises was prohibited in Florida, illegal hunting depleted or destroyed tortoise colonies to supply the demand for gopher meat. Gopher tortoises do not reproduce at a rate that can withstand harvest.

Tortoise Races – Tortoise races, now prohibited in Florida, were once popular activities in rural areas. Tortoises used in the races were removed from their natural habitats and if released, were rarely returned to their original location. Several communities now hold races using pulley-controlled or remote-controlled replicas of tortoises rather than live tortoises.

Other factors – Additional factors believed to be harmful to gopher tortoises include the broad scale the use of herbicides and pesticides, the release of exotic pet tortoises, and predation by domestic dogs.

Research Needs

Many questions about gopher tortoises remain unanswered. How long do tortoises live? How do tortoises select mates? How much land is needed to provide adequate habitat for a healthy gopher tortoise population? What are the effects of roads on tortoises and tortoise populations? Do tortoises from different populations have different diseases and parasites? Is URTD an indigenous disease? Researchers are trying to answer these questions and others by conducting long-term studies of tortoise populations on public lands.

We know that many animals use gopher tortoise burrows for shelter, and that some burrow associates live most or all of their lives in the burrows. If gopher tortoises disappear, what will happen to these animals? Will the gopher frog, Florida mouse, gopher cricket, and other animals disappear along with the tortoise? Many researchers fear that if this “keystone” species becomes extinct, many other species will soon follow.

Further research on the ecology of the gopher tortoise and its habitat is needed to ensure that this species and other unique components of uplands in the Southeastern United States are preserved for the future.

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